

L Number	Hits	Search Text	DB	Time stamp
1	402	tile near3 grid	USPAT	2002/03/26 10:56
2	6	(tile near3 grid) and mud	USPAT	2002/03/26 10:56
3	0	6161353.URPN.	USPAT	2002/03/26 10:57
4	29	("1594261"   "1778345"   "1930024"   "3008256"   "3533896"   "3800335"   "3817012"   "3869735"   "3883631"   "4290248"   "4318258"   "4324605"   "4557004"   "4612238"   "4932182"   "5014488"   "5052160"   "5052161"   "5140789"   "5185117"   "5255482"   "5371980"   "5459966"   "5511346"   "5816005"   "5857297"   "5914173"   "5946878"   "5954601") .PN.	USPAT	2002/03/26 10:57

Oct. 13, 1970

M. J. HARTIG

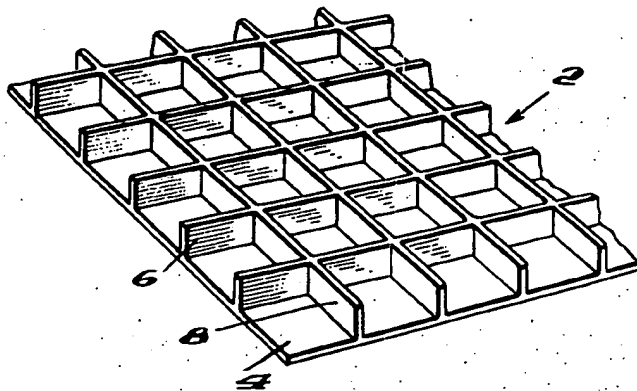
3,533,896

ANCHORING DEVICE OF THERMOPLASTIC RESIN

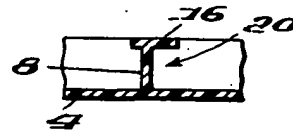
Filed March 27, 1967

3 Sheets-Sheet 1

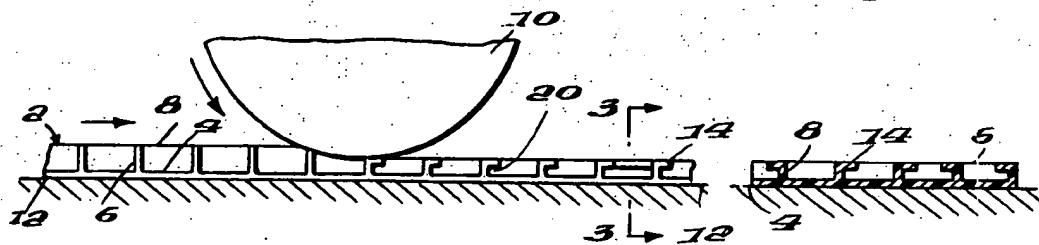
*Fig. 1.*



*Fig. 4.*

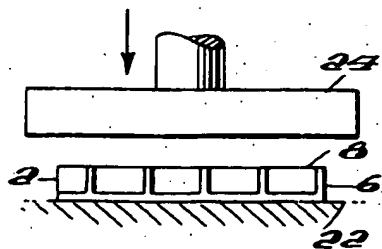


*Fig. 2.*

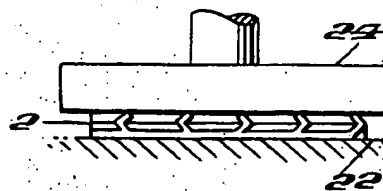


*Fig. 3.*

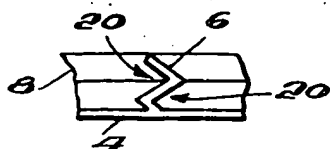
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



# United States Patent [19]

Thomasson

[11] Patent Number: 4,932,182

[45] Date of Patent: Jun. 12, 1990

## [54] FLOOR TILE FORMING AND STRUCTURAL UNDERLAYMENT DEVICE

[76] Inventor: John R. Thomasson, 5203 88th, Lubbock, Tex. 79424

[21] Appl. No.: 433,857

[22] Filed: Nov. 9, 1989

[51] Int. Cl.<sup>3</sup> ..... E04F 15/14

[52] U.S. Cl. .... 52/318; 52/387; 52/601; 404/18

[58] Field of Search ..... 52/318, 315, 387, 391, 52/601, 444, 443, 181; 404/42, 44, 18, 28, 31, 34

### [56] References Cited

#### U.S. PATENT DOCUMENTS

2,030,556	2/1936	Veltung	52/318
3,025,772	3/1962	Palatini	52/318 X
3,338,014	8/1967	Waite	52/318 X
3,533,206	7/1968	Passeno, Jr.	52/391 X
4,601,150	7/1986	Dougherty	52/318 X
4,858,410	8/1989	Goldman	52/387 X

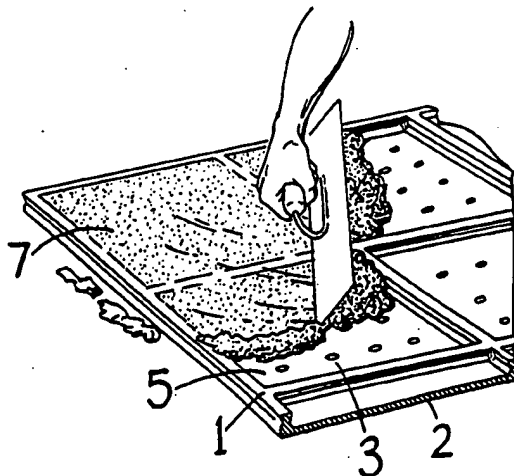
Primary Examiner—Carl D. Friedman

Assistant Examiner—Linda Jean Hoffert

### [57] ABSTRACT

A one piece molded plastic sheet is glued to a floor surface and properly fastened. As many more molded sheets are added to the first in building a complete coverage over the surface. A loose grout material is placed over the molded sheet and into numerous shallow enclosures which consist of a network of raised ribbing that intersect to form a variety of shapes and patterns on the surface. The grout material is levelled off at the top of the raised ribbing so the rib top would appear to be the grout fill characteristic of conventional tile. As the tiles which were formed from the fill material is hardened it is bonded to the molded sheet by special entrapping designs in the mold that prohibit its release. The device serves to structurally support the subfloor by being bonded to the subfloor covering its surface with a strong plastic that supports the subfloors lateral movement.

9 Claims, 1 Drawing Sheet



# United States Patent [19]

Evangelos et al.

[11] Patent Number: 5,014,488

[45] Date of Patent: May 14, 1991

[54] METHOD FOR INSTALLATION OF BUILDING TILES WITHOUT ADHESIVE MATERIALS AND STANDARDIZED TILES FOR IMPLEMENTING THE SAME

[76] Inventors: Grigoropoulos Evangelos; Vallianatos Evangelos, both of P.O. Box 3884, GR-102 10 Athens, Greece

[21] Appl. No.: 446,623

[22] Filed: Dec. 6, 1989

[51] Int. Cl.<sup>5</sup> ..... E04B 1/00; E04G 21/00

[52] U.S. Cl. .... 52/746; 52/748; 52/220; 52/384; 52/390; 52/477

[58] Field of Search ..... 52/384-392, 52/510, 792, 578, 220, 221, 746-748, 476, 477

[56] References Cited

## U.S. PATENT DOCUMENTS

963,889 7/1910 Goodwin ..... 52/792  
1,344,181 6/1920 Mason ..... 52/510

1,866,527 7/1932 Dinkins ..... 52/578  
1,896,188 2/1983 Shanklin ..... 52/510

Primary Examiner—James L. Ridgill, Jr.

## [57] ABSTRACT

The present invention relates to a new method for the installation of building tiles without any adhesive materials (fine grained sand and cement or glues) or joint fillers (e.g. stucco), directly onto a bare wall or floor without any prior preparation of the latter. This method shows substantial advantages and is implemented using frame-plates mountable onto the wall or floor and standardized tiles with engagement means, suitable to match corresponding engagement means of the frame plates.

An illustrative view of the installation process with the frame plates and tiles of the invention is presented in FIG. 16.

5 Claims, 4 Drawing Sheets

